

**IN THE CLAIMS:**

1     1.     (Cancelled)

1     2.     (Currently Amended) The method of Claim 6 wherein the step of associating fur-  
2     ther comprises ~~the step of~~ producing a result representing a remainder upon dividing the  
3     IP ID by the number of active links.

1     3.-5.   (Cancelled)

1     6.     (Previously Presented) A method for uniformly distributing data transmitted by a  
2     server over a plurality of underlying links of an aggregate within a computer network,  
3     comprising:

4             defining a unit of data as a datagram;

5             apportioning each datagram into at least one fragment at the server;

6             associating each fragment to an underlying link of the aggregate on the basis of an  
7     Internet protocol (IP) identifier (ID) of each datagram and a number of active links of the  
8     aggregate, wherein the step of associating includes:

9             logically combining the IP ID with a predetermined mask to produce a quantity,

10            right shifting the quantity a predetermined number of places,

11            establishing a threshold at which a group of data is forwarded to each underlying  
12     link of the aggregate,

13           producing a result representing a remainder upon dividing the right shifted logi-  
14 cally combined quantity IP ID and predetermined mask by the number of active links,  
15 wherein the IP ID is a 16-bit value, the predetermined mask is 0xFF80 and predetermined  
16 number of right shifted places is 7, and wherein the group of data comprises 128 IP IDs;  
17           transmitting the fragment over its associated underlying link from the server to the  
18 computer network.

1     7.       (Original) The method of Claim 6 wherein the group of data comprises one of 128  
2 different transport control protocol (TCP) fragments and 128 different user datagram pro-  
3 tocol (UDP) datagrams.

1     8.       (Original) The method of Claim 7 wherein each UDP datagram comprises up to  
2 23 fragments.

1     9.       (Currently Amended) The method of Claim ~~4~~6 further comprising:  
2           loading at least one data buffer of the server with the at least one fragment;  
3           fetching the fragment from the data buffer; and  
4           loading at least one queue of the server with the fragment, the queue associated  
5 with the underlying link.

1     10.–15. (Cancelled)

1     16.      (Previously Presented) A computer readable medium, comprising:

2 the medium storing executable program instructions for uniformly distributing  
3 data transmitted by a server over a plurality of underlying links of an aggregate within a  
4 computer network, the executable program instructions having program instructions for:

5 defining a unit of data as a datagram;

6 apportioning each datagram into at least one fragment at the server;

7 associating each fragment to an underlying link of the aggregate on the basis of an  
8 Internet protocol (IP) identifier (ID) of each datagram and a number of active links of the  
9 aggregate, wherein the step of associating includes:

10 logically combining the IP ID with a predetermined mask to produce a quantity,

11 right shifting the quantity a predetermined number of places,

12 establishing a threshold at which a group of data is forwarded to each underlying  
13 link of the aggregate,

14 producing a result representing a remainder upon dividing the right shifted logi-  
15 cally combined quantity IP ID and predetermined mask by the number of active links,  
16 wherein the IP ID is a 16-bit value, the predetermined mask is 0xFF80 and predetermined  
17 number of right shifted places is 7, and wherein the group of data comprises 128 IP IDs;

18 transmitting the fragment over its associated underlying link from the server to the  
19 computer network.

1 17. (Original) The computer readable medium of Claim 16 wherein the program in-  
2 struction for associating comprises a program instruction for producing a result represent-  
3 ing a remainder upon dividing the IP ID by the number of active links.

1 18. (Original) The computer readable medium of Claim 17 wherein the program in-  
2 struction for associating further comprises program instructions for:

3           calculating the IP ID of each datagram in a sequential manner; and  
4           rotating the fragments of each datagram among all the underlying links to thereby  
5 ensure that all fragments having the same IP ID are provided to the same physical link of  
6 the aggregate.

1   19.   (Currently Amended) The computer readable medium of Claim 16 wherein the  
2 program instruction for associating further comprises program instructions for:  
3           logically combining the IP ID with a predetermined mask to produce a quantity;  
4           right shifting the quantity a predetermined number of places; and  
5 establishing a threshold at which a group of data is forwarded to each underlying link of  
6 the aggregate.

1   20.   (Currently Amended) The computer readable medium of Claim 19 wherein the  
2 program instruction for associating further comprises the program instruction for produc-  
3 ing a result representing a remainder upon dividing the right shifted logically combined  
4 quantity IP ID and predetermined mask by the number of active links.

1   21. – 33. (Cancelled)

1   34.   (Previously Presented) The method of claim 6 wherein the step of associating fur-  
2 ther comprises apportioning data equally over the plurality of underlying links of the ag-  
3 gregate within the computer network.

1   35.–46. (Cancelled)

1 47. (Currently Amended) ~~The method of claim 46~~ A method for uniformly distribut-  
2 ing data transmitted by a server over a number of underlying links of an aggregate within  
3 a computer network, comprising:

4 providing the plurality of links as a connection to a network node;

5 selecting one link of the plurality of links for transmitting a datagram to the net-  
6 work node (hereinafter the selected link) using a round robin selection technique, the data  
7 identified by an Internet protocol (IP) identifier (ID), the IP ID indicating an end point  
8 destination for the data;

9 apportioning the datagram into at least one fragment;

10 performing a logical AND operation to combine the IP ID and a predetermined  
11 mask, wherein the predetermined mask is 0xFF80;

12 dividing the result of the logical AND operation by the number of underlying  
13 links to generate a remainder;

14 using the remainder as the link identifier;

15 associating the fragments with the selected link; and

16 transmitting the fragments over the selected link.

1 48. (Cancelled)

1 49. (Currently Amended) ~~The method of claim 48~~ A method for uniformly distribut-  
2 ing data transmitted by a server over a number of underlying links of an aggregate within  
3 a computer network, the comprising:

4 providing the plurality of links as a connection to a network node;

5 selecting one link of the plurality of links for transmitting a datagram to the net-  
6 work node (hereinafter the selected link) using a round robin selection technique, the data

7 identified by an Internet protocol (IP) identifier (ID), the IP ID indicating an end point  
8 destination for the data;  
9 apportioning the datagram into at least one fragment;  
10 performing a logical AND operation to combine the IP ID and a predetermined  
11 mask, wherein the predetermined mask is 0xFF80 and the predetermined number of bits  
12 is 7 bits;  
13 right shifting the result of the logical AND by a predetermined number of bits;  
14 dividing the result of right shifting by the number of underlying links to generate  
15 a remainder;  
16 using the remainder as the link identifier; associating the fragments with the se-  
17 lected link; and  
18 transmitting the fragments over the selected link.

1 50. – 62. (Cancelled)